

Abstract

We address the task of mapping a given domain model (e.g., an industry-standard reference model) for a given domain (e.g., ERP), with the source code of an independently developed application in the same domain. This has applications in improving the understandability of an existing application, migrating it to a more flexible architecture, or integrating it with other related applications. We build on a previous approach, which uses relationships among source code elements for improving the precision of the mapping process. We extend this approach by considering relationships among domain model elements in addition to relationships among source code elements, and also by stating the mapping process as an optimization problem. We have implemented our approach, and compared it with the previous approach. We show that our approach gives significantly better precision as well as recall than the previous approach when applied on a real industry-standard domain model and an open-source application.